

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (currently amended) In a system that includes a network device that controls communication of data frames between stations, a method comprising:

- receiving a data frame on a first logic component of the network device;
- identifying receive port information associated with the data frame, the receive port information identifying a port on the first logic component on which the data frame was received;
- transmitting the data frame and the receive port information to a second logic component on the network device, based on a destination address of the data frame;
- receiving the data frame and receive port information at the second logic component;
- storing the receive port information on the second logic component;
- processing the data frame to generate frame forwarding information;
- transferring the frame forwarding information to an output queue on the second logic component;
- detecting a condition on the second logic component; and
- transmitting the receive port information associated with the data frame from the second logic component to the first logic component, when the condition is detected;
- generating a pause frame by the first logic component in response to receiving the receive port information from the second logic component; and
- transmitting the pause frame by the first logic component via the port identified by the

receive port information.

2. (currently amended) The method of claim 1, wherein the detecting a condition includes detecting a congestion condition associated with a resource involved in at least one of processing and forwarding the data frame on the second logic component, ~~the method further comprising:~~

~~performing, by the first logic component, a congestion control related operation in response to receiving the receive port information.~~

3. (currently amended) The method of claim 2, wherein the ~~performing a congestion control related operation~~ transmitting the pause frame comprises:

transmitting a the pause frame via the port identified by the receive port information and not transmitting the pause frame by the first logic component via other ports on the first logic component.

4. (original) The method of claim 1, wherein the transmitting the data frame and the receive port information to the second logic component includes transmitting the data frame and the receive port information together in a single frame, the single frame including a field identifying the receive port information.

5. (original) The method of claim 1, further comprising:

discarding the receive port information associated with the data frame after transferring the frame forwarding information to the output queue, when the condition is not detected.

6. (original) The method of claim 1, wherein the processing and transferring associated with a plurality of data frames are performed in a same order as which the receive port information for the respective plurality of data frames is stored by the second logic component.

7. (original) A network device including a plurality of logic devices coupled together to control communication of data frames between stations, comprising:

a first logic device comprising:

a plurality of ports configured to receive data frames from the respective stations, and

first data frame processing logic configured to:

receive a data frame from a first station, the data frame having a destination address associated with a second logic device,

identify receive port information associated with the data frame, the receive port information identifying a port on the first logic device on which the data frame was received, and

transmit the data frame and receive port information to the second logic device via the first port; and

a second logic device comprising:

a register configured to store receive port information associated with data frames received from the first logic device, and

second data frame processing logic configured to:

receive the data frame and receive port information,

store the receive port information in the register,

generate frame forwarding information for the data frame,
determine whether a condition exists with respect to a resource involved in
processing the data frame, and
send a signal to the register when the condition exists, the signal
indicating that the register is to output receive port information associated with the data
frame to the first logic device.

8. (original) The network device of claim 7, wherein the condition relates to a congestion
condition associated with the resource.

9. (original) The network device of claim 8, wherein the first logic device is further
configured to:

receive the receive port information from the second logic device, and
perform a flow-control related operation with regard to the port identified by the receive port
information.

10. (original) The network device of claim 9, wherein the flow-control related operation
comprises transmitting a pause frame via the port identified by the receive port information.

11. (original) The network device of claim 7, wherein the register outputs receive port
information corresponding to an oldest entry stored in the register in response to receiving the signal.

12. (original) The network device of claim 7, wherein the second logic device further comprises:

a plurality of output queues corresponding to ports on the second logic device, wherein the second data frame processing logic is further configured to:

output frame forwarding information to one of the plurality of output queues; and

send a second signal to the register when the condition does not exist, the second signal indicating that the register is to discard the receive port information associated with the data frame.

13. (original) The network device of claim 12, wherein the register discards receive port information corresponding to an oldest entry in the register in response to receiving the second signal.

14. (original) The network device of claim 7, wherein the second data frame processing logic processes data frames in a same order as which the corresponding receive port information is stored in the register.

15. (currently amended) A system comprising a plurality of devices configured to control communication of data frames between stations, comprising:

a first device configured to receive a data frame having a destination address associated with a second device, identify receive port information associated with the data frame, and transmit the data frame and the receive port information to the second device; and

a second device configured to receive the data frame and the receive port information, process the data frame to generate frame forwarding information for the data frame, determine whether a congestion condition exists on the second device, the congestion condition relating to a resource involved in at least one of processing ~~and~~ or forwarding the data frame to its destination, and transmit the receive port information associated with the data frame to the first device when the congestion condition exists, wherein the first device is further configured to:

receive the receive port information from the second device,

generate a pause frame requesting suspension of data traffic, and

transmit the pause frame via a port identified by the receive port information,

without transmitting the pause frame via other ports on the first device.

16-17. (canceled)

18. (currently amended) The ~~A~~ system of claim 15, comprising a plurality of devices configured to control communication of data frames between stations, comprising:

a first device configured to receive a data frame having a destination address associated with a second device, identify receive port information associated with the data frame, and transmit the data frame and the receive port information to the second device; and

a second device configured to receive the data frame and the receive port information, process the data frame to generate frame forwarding information for the data frame, determine whether a congestion condition exists on the second device, the congestion condition relating to a resource involved in at least one of processing or forwarding the data frame to its destination, and

transmit the receive port information associated with the data frame to the first device when the congestion condition exists, wherein the second device comprises:

a first-in, first-out (FIFO) device configured to store receive port information for a number of data frames; and

flow control logic configured to transmit a signal to the FIFO device when the congestion condition is detected, and wherein

the FIFO device outputs the receive port information corresponding to a data frame associated with the congestion condition, in response to receiving the signal.

19. (original) The system of claim 15, wherein the second device comprises:

a FIFO device configured to store receive port information for a number of data frames; and

a plurality of output queues corresponding to ports on the second device, the second device being further configured to:

output the frame forwarding information to one of the plurality of output queues, and wherein

the second device processes data frames received from the first device in a same order as which the receive port information for the respective data frames is stored in the FIFO device, such that when the frame forwarding information is output to one of the output queues, an oldest entry in the FIFO device relates to the frame forwarding information being output to the output queue.

20. (original) The system of claim 15, wherein the second device comprises:

a first-in, first-out (FIFO) device configured to store the receive port information for a number of data frames, the second device being further configured to:

transmit an oldest entry in the FIFO device to the first device when the congestion condition exists.